

WHAT IS CLAIMED:

1. A method for communicating in a system that includes at least a first base station connected to a packet network, the first base station serving a first cell, said method comprising:

5 connecting a second base station to the packet network;
the second base station automatically identifying the first base station;
receiving, at the first base station, communications from a wireless device in
the first cell served by the first base station; and
handing off the wireless device from the first cell to a second cell served by
10 the second base station by a two way exchange of information between the first
base station and the second base station.

2. The method of claim 1, further comprising:

15 the first base station and the second base station exchanging
information over the packet network to determine a coverage area for the second cell
served by the second base station.

3. The method of claim 1, wherein the step of the second base station
identifying the first station includes:

20 the second base station transmitting to a carrier database a message
requesting addresses for other base stations connected to the packet network;
the carrier database transmitting an address for the first base station to
the second base station; and
the second base station transmitting a message to the first base station

using the address for the first base station.

4. The method of claim 3, further comprising:

the second base station transmitting a message to a central database

5 requesting an address for the carrier database; and

the central database, in response to receiving the message from the second base station, transmitting an address for the carrier database to the second base station.

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5. The method of claim 1, wherein the step of the second base station identifying the first base station includes:

the second base station transmitting a broadcast message on the packet network; and

the first base station transmitting a reply message to the second base station in response to receiving the broadcast message.

6. The method of claim 1, wherein the wireless device includes a computer.

7. The method of claim 6, wherein the computer includes a personal digital

20 assistant (PDA).

8. The method of claim 1, wherein the wireless device uses the mobile Internet protocol (IP) to send the communication to the first base station.

25 9. The method of claim 1, wherein the first base station connects to the

packet network via an Ethernet compatible interface.

10. A system, comprising:

a first base station that controls communications with one or more wireless

5 devices in a first cell;

a second base station that controls communications with one or more wireless

devices in a second cell; and

a packet network connecting the first base station and the second base
station;

10 wherein the first base station automatically identifies the second base station

after being connected to the packet network; and

15 wherein the first base station and the second base station engage in a two
way information exchange over the network to hand off one or more of the wireless
devices in the first cell from the first cell to the second cell.

11. The system of claim 10, wherein the first base station is further capable of
engaging in a two way exchange of information with the second base station to
determine a coverage area for the first cell.

20 12. The system of claim 10, wherein the first base station further transmits to

a carrier database a message requesting addresses for other base stations

connected to the packet network, receives from the carrier database an address for
the second base station, and transmits a message to the second base station using
the address for the second base station.

13. The method of claim 12, wherein the second base station further transmits a message to a central database requesting an address for the carrier database, receives from the central database the address for the carrier database, and transmits a message to the carrier database using the address for the carrier database.

14. The method of claim 10, wherein the first base station further transmits a broadcast message on the packet network, and receives a reply message from the second base station in response to the broadcast message.

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15. The system of claim 10, wherein at least one of the wireless devices includes a cellular phone.

16. The system of claim 10, wherein at least one of the wireless devices includes a computer.

17. The system of claim 16, wherein the computer includes a personal digital assistant (PDA).

20 18. The system of claim 10, wherein the wireless device communicates with the first base station using mobile internet protocol (IP).

19. The system of claim 10, wherein the first base station connects to the packet network via an Ethernet compatible interface.

20. A base station for communicating with a wireless device, comprising:

- a network interface that connects to a packet network;
- an antenna interface that connects to an antenna for communicating with one or more wireless devices in a first cell served by the base station;

5 a memory that includes:

- a program for automatically identifying other base stations, and
- a program for engaging in a two way information exchange with one of the other base stations to hand off, from the first cell to a second cell served by the other base station, one or more of the wireless devices in the first cell; and

10 a processor that executes the program.